

WE CLAIM:

1. A catheter for facilitating intracardiac atrial defibrillation comprising: an elongated flexible member with a proximal end and a distal end and first, second, and third spaced apart electrode arrays secured around the periphery of said flexible member wherein said electrode arrays are arranged in a predetermined pattern.

2. The catheter for facilitating intracardiac atrial defibrillation as claimed in Claim 1 wherein said first electrode array is adapted to be positioned within the superior vena cava, said second electrode array is adapted to be positioned within the right atrium, and said third electrode array is adapted to be positioned within the coronary sinus.

3. The catheter for facilitating intracardiac atrial defibrillation as claimed in Claim 1 wherein said first electrode array is adapted to be positioned within the superior vena cava, said second electrode array is adapted to be positioned within the right atrium, and said third electrode array is adapted to be positioned within the right ventricle.

4. The catheter for facilitating intracardiac atrial defibrillation as claimed in Claim 1 wherein each of said electrode arrays includes a plurality of electrodes.

5. The catheter for facilitating intracardiac atrial defibrillation as claimed in Claim 4 wherein each of said electrodes has a length of approximately five millimeters.

6. The catheter for facilitating intracardiac atrial defibrillation as claimed in Claim 1 further including an atrial pacing/sensing electrode and bi-polar pacing/sensing stimulation electrodes located on said flexible member.

7. The catheter for facilitating intracardiac atrial defibrillation as claimed in Claim 6 wherein said atrial pacing/sensing electrode is located in the area of said second electrode array but is electrically isolated therefrom.

8. The catheter for facilitating intracardiac atrial defibrillation as claimed in Claim 6 wherein said bi-polar pacing/sensing stimulation electrodes are located distal to said third electrode array and are electrically isolated therefrom.

9. A method for facilitating intracardiac atrial defibrillation in a patient comprising the steps of:

providing an elongated flexible member with a proximal end and a distal end and first, second, and third spaced apart electrode arrays secured around the periphery of said flexible member wherein said electrode arrays are arranged in a predetermined pattern;

positioning said elongated flexible member within the patient's heart; and
applying electric shocks through said elongated flexible member in order to defibrillate the patient's heart.

10. The method for facilitating intracardiac atrial defibrillation in a patient as claimed in Claim 9 wherein said first electrode array is adapted to be positioned within the superior vena cava, said second electrode array is adapted to be

positioned within the right atrium, and said third electrode array is adapted to be positioned within the coronary sinus.

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11. The method for facilitating intracardiac atrial defibrillation in a patient as claimed in Claim 9 wherein said first electrode array is adapted to be positioned within the superior vena cava, said second electrode array is adapted to be positioned within the right atrium, and said third electrode array is adapted to be positioned within the right ventricle.

3 12. The method for facilitating intracardiac atrial defibrillation in a patient as claimed in Claim 9 further including an atrial pacing/sensing electrode and bipolar pacing/sensing stimulation electrodes located on said flexible member and which sense the occurrence of fibrillation.